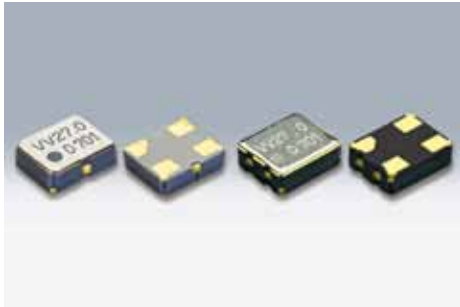


# SMD Voltage Controlled Crystal Oscillators

## DSV211AV/DSV221SV



Actual size DSV211AV □ DSV221SV □

### ■ Features

- DSV211AV: 2016 size, 0.72mm height  
DSV221SV: 2520 size, 0.815mm height
- The product is an analog VCXO which ensures good variable frequency and a linear changing frequency
- Low current consumption

### ■ Applications

- DVD, Digital TV, STB
- Camera modules (DSV211AV)



### ■ Standard Specification

Item	Type	Legend	DSV211AV		DSV221SV	
Output Frequency Range	$f_o$		19.2 to 80MHz	12MHz, 19.2 to 80MHz	6.75 to 90MHz	
Supply Voltage	$V_{cc}$		+2.8V±0.28V	+3.3V±0.33V	+2.8V±0.28V	+3.3V±0.33V
Frequency Control Voltage	$V_{cont}$		+1.4V±1.4V	+1.65V±1.65V	+1.4V±1.4V	+1.65V±1.65V
Storage Temperature Range	$T_{stg}$		-40 to +85°C		-40 to +85°C	
Operating Temperature Range	$T_{use}$		-10 to 70°C / -30 to +85°C		-10 to 70°C / -30 to +85°C	
Frequency Tolerance (Includes frequency tolerance at room temperature.)	$f_{tol}$		±40×10 <sup>-6</sup> max.		±40×10 <sup>-6</sup> max.	
Frequency Adjustment Range	$f_{cont}$		±100×10 <sup>-6</sup> min. [Positive Slope]		±125×10 <sup>-6</sup> min. [Positive Slope]	
Current Consumption	$I_{cc}$		9.4mA max. [No Load]	13.6mA max. [No Load]	3mA max.(6.75MHz≤ $f_o$ ≤40MHz) 5.5mA max.(40MHz< $f_o$ ≤65MHz) 9.5mA max.(65MHz< $f_o$ ≤90MHz) [No Load]	4mA max.(6.75MHz≤ $f_o$ ≤40MHz) 7.5mA max.(40MHz< $f_o$ ≤65MHz) 13.5mA max.(65MHz< $f_o$ ≤90MHz) [No Load]
Load Condition	$L_{CMOS}$		15pF		15pF	
Symmetry	SYM		45 to 55% [50% $V_{cc}$ Level]		45 to 55% [50% $V_{cc}$ Level]	
0 Level Output Voltage	$V_{OL}$		$V_{cc} \times 0.1$ max.		$V_{cc} \times 0.1$ max.	
1 Level Output Voltage	$V_{OH}$		$V_{cc} \times 0.9$ min.		$V_{cc} \times 0.9$ min.	
Rise and Fall Time	$t_r, t_f$		10ns max. [10 to 90% $V_{cc}$ Level]		10ns max.(6.75MHz≤ $f_o$ ≤40MHz) 6ns max.(40MHz< $f_o$ ≤65MHz) 4ns max.(65MHz< $f_o$ ≤90MHz) [10 to 90% $V_{cc}$ ]	
Period Jitter (1)	$t_{RMS}$		2.5ps typ. ( $\sigma$ )		2.4ps typ. ( $\sigma$ )	
	$t_{p-p}$		23ps typ. (Peak to peak)		22ps typ. (Peak to peak)	
Total Jitter (1)	$t_{TL}$		35ps typ. [ $t_{DJ} + n \times t_{RJ}$ $n=14.1$ (BER=1×10 <sup>-13</sup> )(2)]		33ps typ. [ $t_{DJ} + n \times t_{RJ}$ $n=14.1$ (BER=1×10 <sup>-13</sup> )(2)]	
Phase Jitter	$t_{pj}$		1ps max. ( $f_o$ offset : 12kHz to 5MHz)		1ps max. (10MHz≤ $f_o$ <40MHz, $f_o$ offset : 12kHz to 5MHz, $f_o$ ≥40MHz, $f_o$ offset : 12kHz to 20MHz)	
Packing Unit (3)	-		3000pcs./reel ( $\phi$ 180)		2000pcs./reel ( $\phi$ 180)	

- (1) Measured WAVECREST DTS-2075  
 (2)  $t_{DJ}$  : Deterministic jitter  $t_{RJ}$  : Random jitter  
 (3) Moisture prevention packing is unnecessary.  
 Moisture Sensitivity Level : Level 1 (IPC/JEDEC J-STD-033)

Consult our sales representative for other specifications.

### ■ DSV211AV

### [mm] ■ DSV221SV

### [mm]

